

REMARKS

By way of the instant amendment, claims 2 and 11-23 have been cancelled. Thus, claims 1 and 3-10 remain for examination.

In paragraph 1 of the outstanding office action the examiner has indicated that claim 9 is withdrawn from consideration as being drawn to a non-elected species. However, applicant points out that claim 9 is dependent upon claim 8, and claim 9 recites that the silver-based sheath is interposed between each of the oxide superconductors and the ceramic layer. This recitation corresponds exactly to the subject matter disclosed in Figure 21 which is an elected species of Group 1, Embodiment IV. As may be seen from Figure 21, the silver-based sheath is identified as element 110, and it is shown to be interposed between each of the oxide superconductors (identified as the superconducting filaments 117) and the ceramic layer (identified as element 112). Thus, applicant submits that claim 9 should not have been withdrawn from consideration and indeed reads on the embodiment of Figure 21.

In paragraph 2 of the outstanding office action the examiner has objected to the drawings under 37 C.F.R. § 1.83(a). The examiner states that the ceramic layer and metal sheath in Figures 21-25 must be shown or these features cancelled from the claims.

In Figure 21, the ceramic layer is identified as element 112 and the metal sheath may be seen to include either the silver sheath 110 or the silver sheath 114. Likewise, Figures 22-24 show a rod 100 formed from precursor powders of oxide superconducting filaments, a silver sheath 110 and a ceramic layer 112. It is submitted that all of the positively recited elements in applicant's claims 1-10 are clearly illustrated in Figures 21-25 and the examiner's objection to the drawing should be withdrawn.

The examiner has objected to claim 8 and suggested alternative language. By way of the instant amendment, claim 8 has been so amended.

Claims 1-8 and 10 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yamamoto (5,424,282).

By way of the instant amendment, claim 1 has been amended in order to incorporate therein the subject matter of claim 2. Claim 2 has been cancelled. Thus, claim 1 recites that the oxide superconductors are divided into a plurality of filaments. The word "filaments" has been used instead of the original term "segment" in order to better characterize applicant's invention.

In a similar fashion, claim 8 has been amended in order to incorporate therein the recitation that the superconducting wire comprises a plurality of filaments wherein each filament is formed of an oxide superconductor. Claim 1 and 8 are the sole independent claims.

The above-enumerated changes to claims 1 and 8 clearly render these claims patentable over the prior art. Indeed, Figures 1 and 2 of Yamamoto do not disclose a plurality of filaments at all, and the embodiments of Figures 7-9 of Yamamoto likewise do not disclose a plurality of oxide superconductor filaments. Rather, the disclosure of Yamamoto's Figures 7-9 shows a structure in which the compound oxide type superconductor 81 (91,101) has embedded therein a plurality of platinum wires 84 (94, 104). It is explained in column 8, lines 6-16 of Yamamoto that the platinum wires 94 embedded within the superconducting compound oxide 91 permit a very high intensity electric current to pass therethrough since the platinum wires constitute ordinary conductors which are utilized in the case of an accidental breaking of the superconductivity of the oxide core 91. Thus, both the figures and the express teaching of Yamamoto make it clear that Yamamoto does not disclose a plurality of filaments wherein the filaments are each oxide superconductors as recited in applicant's claims.

Applicant's dependant claims 2-7 and 9-10 depend directly or indirectly upon independent claims 1 and 8 and are deemed to be patentable at least for the same reasons indicated above with regard to claims 1 and 8.

Atty. Dkt. No. 040256-0123

In view of the amendments made hereto and the remarks set forth above, it is submitted that the application is now in condition for allowance and an early indication of same is earnestly solicited.

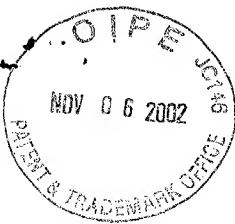
Respectfully submitted,

By 

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Atty. Dkt. No. 040256-0123

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Naoki AYAI

Title: OXIDE HIGH-TEMPERATURE  
SUPERCONDUCTING WIRE AND  
METHOD OF PRODUCING THE  
SAME

Appl. No.: 09/938,829

Filing Date: 08/27/01

Examiner: Tuan T. Dinh

Art Unit: 2827

**MAK-UP COPY OF AMENDMENT AND REQUEST FOR RECONSIDERATION**  
**UNDER 37 C.F.R. § 1.111**

Commissioner for Patents  
Box Non-Fee Amendment  
Washington, D.C. 20231

Sir:

In reply to the Office Action mailed July 31, 2002, please amend the above-identified application as follows:

**IN THE CLAIMS:**

Please cancel claims 2 and 11-23. Applicant reserves the right to file a divisional application on the non-elected claims. Please amend claims 1 and 3-10 as follows.

1. (Amended) An oxide superconducting wire comprising:  
oxide superconductors;  
~~a ceramic layer enclosing and being in contact with each of said oxide superconductors, said ceramic layer becoming non-superconducting-conducting at an operational temperature of said oxide superconductors, and;~~  
a metal sheath directly coating said ceramic layer; and

wherein said oxide superconductors are divided into a plurality of filaments.

3. (Amended) An-The oxide superconducting wire as defined in claim 1 or 2, wherein said oxide superconductors are configured to spirally extend around the central axis of said oxide superconducting wire.

4. (Amended) An-The oxide superconducting wire as defined in claims 1, wherein said ceramic layer contains an oxide including at least one kind selected from the group consisting of bismuth, lead, strontium, calcium, barium, titanium, niobium, molybdenum, tantalum, tungsten, vanadium, zirconium, copper and silver.

5. (Amended) An-The oxide superconducting wire provided in one of the claims 1 wherein said oxide superconductors are bismuth-based superconductors.

6. (Amended) An-The oxide superconducting wire as defined in claim 4, wherein said ceramic layers contains an oxide including an alkali earth metal and copper.

7. (Amended) An-The oxide superconducting wire as defined in claim 1, wherein said metal sheath include at least one kind selected from the group consisting of silver, copper, manganese, magnesium, antimony, iron, chromium, and nickel.

8. (Amended) An A oxide superconducting wire comprising:  
~~oxide superconductors;~~  
a plurality of filaments, each filament formed of an oxide superconductor;  
a ceramic layer formed by extrusion, said ceramic layer enclosing  
said oxide superconductors and becoming non-superconducting conducting at an  
operating temperature of said oxide superconductors and;  
a metal sheath encasing said ceramic layer.

9. (Amended) AnThe oxide superconducting wire as defined in claim 8, wherein a silver-based sheath is interposed between each of said oxide superconductors and said ceramic layer.

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10. (Amended) The An-oxide superconducting wire as defined in claim 8,  
wherein said ceramic layer enclosing and being in contact with each of said oxide  
superconductors.

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iManage://LAXDMS1/LACA/558437/2. Performed on 10/17/02.